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It is hardly necessary to remark that, f'^2 being neglected, $2e'f't = (e'+f't)^2 - e'^2$, and $\therefore e'f't^2 = \int [(e'+f't)^2 - e'^2]\, dt$, where $(e'+f't)^2 - e'^2$ is what is commonly represented by $(e'^2 - E'^2)$. The value of m is not that made use of by Prof. Adams; in fact,—

$$m\ (\text{Adams}) = m \left\{ 1 + \left(\frac{3}{2} m^2 - \frac{3771}{64} m^4 \right) 2e'f't \right\}$$

but in the terms multiplied by f' the two values of m may be considered as identical, hence the foregoing expression of δv, in the notation of Prof. Adams, is

$$\delta v = \left(-\frac{3}{2} m^2 + \frac{3771}{64} m^4 \right) \int \left(e'^2 - E'^2 \right) n\, dt$$

the result obtained by him. The number $\frac{1973}{32}$, the coefficient of m^4 in the expression $\delta \rho$, does not occur explicitly in his memoir, but is, in fact, deducible from the value there given for the reciprocal of the radius vector. The present abstract gives a complete outline of the method of investigation, and it was thought better to omit altogether the details of the working rather than present them in an incomplete manner.

The Transit of Mercury, Nov. 11, 1861.

(*Extract of a Letter from Father Secchi to the Astronomer Royal, dated Rome, Nov.* 16, 1861.)

The passage of *Mercury* on the solar disk has been observed here under very good circumstances, but almost by a miracle, because the sky was all overcast by clouds. Some details will be found in the *Comptes Rendus*, and more yet in the *Astronomische Nachrichten*. But it will not displease the Astronomical Society to know the principal results; they are the following:—

	h	m	s
Interior contact, Sid. T. Rome ...	13	35	6·29
Or M.T. Rome	22	9	9·45
Centre (estimated), Sid. T.	13	36	10·19
Exterior contact, Sid. T.	13	37	14·09

The air was exceedingly calm, and the rupture of the narrow ring was made with the utmost tranquillity, leaving two very sharp cusps. The exterior edge of the Sun appeared in the narrow thread of light, before the rupture, more faint

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a good deal than the part of the Sun at the opposite point of the diameter of the planet. The blackness of the planet appeared greater a good deal than the usual nuclei of the spots, and its termination persuaded me that the nuclei are really badly terminated, and that there is a real diffusion of matter in their borders. In the intervals left between the clouds, during the passage, I measured a great many distances and positions of the planet from the edge of the Sun's disk; and I made, also, 9 double measures of the diameter of the planet. The result of these is $=9''\cdot077$, with probable error $=0''\cdot189$. It is remarkable that the duration of the passage gives for this diameter $9''\cdot165$. This value is different from that given in the tables. A year ago I obtained from some measures a diameter even smaller—that is, $8''\cdot91$. I propose to take a few more measures of this element; but it is rather difficult, on account of the termination of *Mercury's* disk, which is always very bad, and seems to be very faint at the edges.

A new discussion of my magnetical observations compared with a series of electrical atmospherical observations have led me to admit a real connexion between this electricity, and the variations of at least the horizontal intensity. In many things, I think, M. Lamont is right; and what he has suggested on this account I believe him to have demonstrated and seen directly.

The Transit of Mercury, November 11, 1861, *observed at Malta.* By W. Lassell, Esq.

At No. 9, Piazzi Stierna, Via Torre, Malta, approximate longitude $58^m\ 2^s$ east of Greenwich, latitude 35° 54′ 46″ north, 1861, Nov. 11th, I observed the emersion, or egress, and part of the transit of *Mercury* over the Sun. The best telescope I had at hand was a very sharply-defining Gregorian of 4·7 inches aperture; power used, 78. I first pointed the telescope at about 19·50 Stierna mean time. The planet, being considerably advanced on the disk, appeared perfectly well defined, round, and black. I watched the phenomenon from time to time until about 22^h; after which I observed it uninterruptedly until its disappearance. I had, however, no means suitable for making any accurate measures; but I was filled with admiration, throughout, of the exquisite beauty of the vision. The limb of the Sun and the disk of the planet were far more sharp and beautiful than I have ever seen them with equal power, and within 1½ to 3 hours of the horizon.

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